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CZECHOSLOVAKIA BEGINS TELEVISION BROADCASTING

[Diagrams of the kinescope, the supericonoscope, and the transmission stages of telecasting are appended.

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Numbers in parentheses refer to appended sources.]

Three Czechoslovak enterprises participated in producing the first Czechoslovak television, which was introduced 1 May 1953 in Prague. Aid was also given by other radio-technical, construction, and machinery enterprises. Work on television began in 1945, after the liberation of Czechoslovakia by the Soviets. At the end of March 1953, the Josef Haken Branch of the Tesla Enterprise in Prague was completing the first series of television receivers. The Julius Fucik Branch of Tesla Enterprise in Prague produced the transmitter. The Research Institute of the Main Administration of Radiocommunications of the Ministry of Communications (Vyzkumny ustav hlavni spravy radiokomunikaci ministerstva spoju) made the television link from the studio to the transmitter. A workers' collective led by Dr J. Habanec set up all the studio equipment in the Institute.(1) Although Czechoslovakia designed its television equipment and used materials exclusively from Czechoslovakia in its construction, the television was modeled after Soviet television and was made under Soviet supervision.(2) The Soviet KVN 49 television receiver was used as a model for the Czechoslovak receiver.(3)

Experimental work leading to the final launching of the television industry in Czechoslovakia was assigned to the A. S. Popov Laboratories and to the Tesla Works in Prague some 3 years ago. The newly developed Czechoslovak television receiver closely resembles the Soviet KVN 49 model. The size of its picture is 15 x 20 centimeters. The transmitter was designed by Tesla engineers.(4)

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The television transmitter, which is closely modeled after the Moscow television center (6), is located at Prague-Petrin, while the studios are in the former Mestansky Club building on Vladislav Ulice in Prague.(5) The transmitter will operate on a band of 48.9 to 56.6 megacycles. The image frequency is 49.75 megacycles, and the sound frequency is 56.25 megacycles. The difference between the image and sound frequencies (6.5 megacycles) corresponds to the standard adopted by the peace-camp countries at the Stockholm conference.

Sound is piped from the television studio to the transmitting station by cable. Modulating frequencies for transmitting images are sent to the transmitting station by VHF radio relay.

The image transmitter has an output [illegible] to 5 kilowatts, and the sound transmitter 3 kilowatts. The image transmitter is amplitude modulated, and frequency modulation is used for the sound transmitter. A transmission antenna is located on the top of the tower in Petrin. It will be a two-direction stack, concentrating transmitted power in a horizontal direction, thus increasing effective radiated power well above [illegible] kilowatts.

The antenna design is the product of the workers' collective of the Ministry of Communications under the [illegible] of Engr Vladimir Caha, winner of the prize "For Outstanding Work [illegible]."

The Czechoslovak television [illegible] transmitting over an 8-megacycle channel (1), is composed of 833,000 elements per frame and has 625 lines, with each line consisting of 860 elements. The [illegible] of the electron beam across the face of the mosaic is seven times faster than its movement during the actual transmission phase. The supericonoscope used is adjusted to 25 frames per second, which is well suited to the 50 cycles per second of the Czechoslovak electric power network. The supericonoscope is housed in a mobile camera, together with the video preamplifier (6).

The maximum radius of television transmissions from Petrin, because of the use of ultrashort waves, is up to 50 kilometers (6). [The 1 May 1953 issue of Lidova Demokracie states that television can be viewed in Prague and its outskirts to a distance of 25 to 30 kilometers.(3) However, on 4 July 1953 a Czechoslovak television transmission was intercepted on the Snezka Peak in the Krkonose Mountains by a team of workers from the Research Institute for Electrotechnical Physics. A dipole antenna with a 30-meter lead and a standard receiver were used for the experiment.(7) (The distance between Prague and the Snezka Peak is approximately 120 kilometers, while the peak has an elevation of 1,603 meters.)]

K. Kohout, program director for Czechoslovak television, and his six dramatists and directors have prepared programs for the entire month of May [1953]. The first program will include the Czech Philharmonic, a one-hour presentation of the visit of President Zapotocky to Czechoslovak soldiers, scenes from 1 May celebrations from 1890 to 1952, scenes from the Czechoslovakia-Italy football match and the Prague-Berlin-Warsaw bicycle race, recipients of state prizes in 1953 in the Prague district, and scenes from the May 1953 events in Vaclavske Namesti in Prague.

Included in future programs, which will be held on Wednesdays, Saturdays, and Sundays, will be: a program dedicated to the Egyptologist, Hrozny, on 2 May; the 100th anniversary celebration of the birth of the actor, Vojan, on 6 May; scenes from a military review, on 9 May; scenes from the 1921 meeting of the Communist Party of Czechoslovakia, on 13 May; scenes from the Prague

Zoological Gardens, on 16 May; scenes from the Prague dance festival, on 24 May; and the report of the 250th anniversary of the founding of Leningrad, on 31 May. Scenes from the Prague-Berling-Warsaw bicycle race will be presented during this time.(5)

Television sets are on sale at a store located on Jindrisska Ulice, Prague II.(9) The first receiving sets will go mainly to technicians, for test purposes.(3) Until more sets become available, residents of Prague will be able to see television in the Divadlo Hudby; Svaz Spisovatelu in the Narodni Trida; the Slovansky Dum; the Alcron Hotel, the former Bratrstvi store, across from the main post office; the Detsky Dum; the Ustredni Informacni Sluzba on the Narodni Trida (5), the State Hospital in Prague II, the Dum Pionyru in Karlin, the Statni Technicky Museum, etc (3) At first, 200 sets will be installed; during the second half of 1953, several thousand sets will be produced and placed on the market (5) These will go to enterprise clubs first, and will then be made available commercially (5) As the number of sets increases, the programs will become more varied. Television sets will be produced, at first, in Ostrava and Bratislava, and later in other places (5)

SOURCES

1. Prague, Pravo, 1 May 53
2. Prague, Mlada Fronta, 1 May 53
3. Prague, Lidova Demokracie, 1 May 53
4. Prague, Prague News Letter, /English-language newspaper/ 18 Jul 53
5. Prague, Svobodne Slovo, 1 May 53
6. Prague, Prace, 3 Feb 53
7. Prague, Rude Pravo, 8 Jul 53
8. Prague, Obrana Lidu, 21 Jun 53
9. Prague, Prace, 31 Jul 53

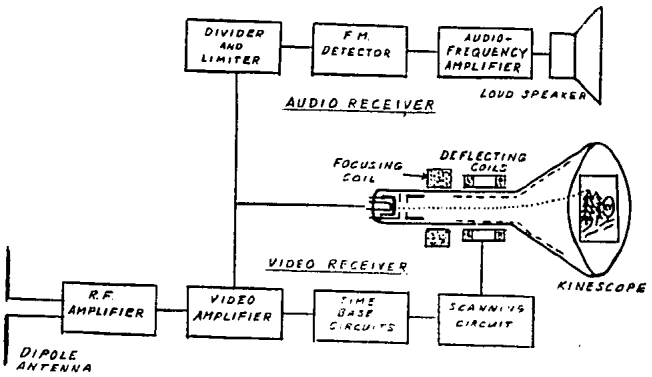

Figure 1. Television Receiver (Source 8)

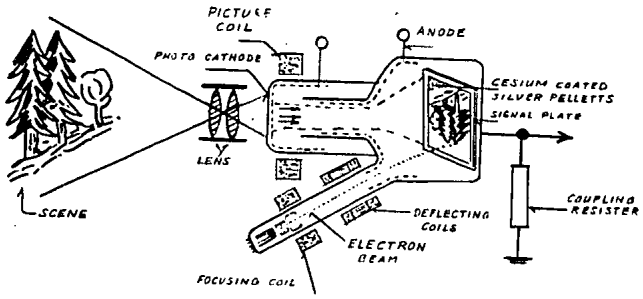

Figure 2. Supericonoscope (Source 8)

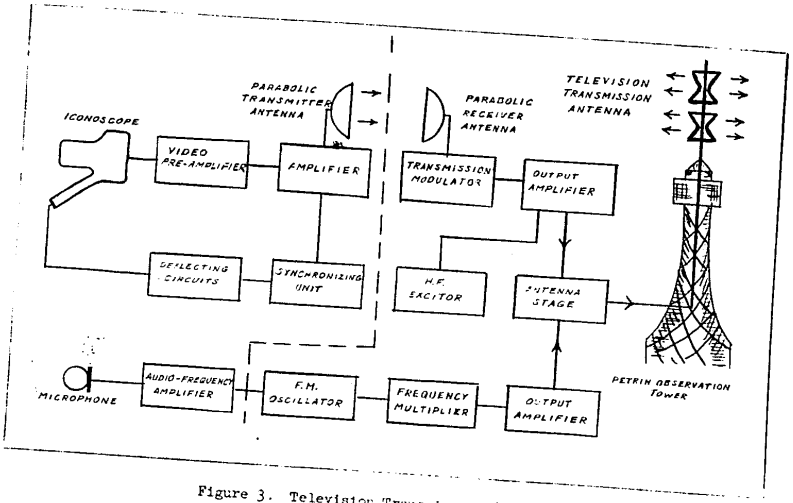

Figure 3. Television Transmission (Source 8)

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